

# memoranaum-

150788

to: Tom Crause

from: Bill McClain

date: July 23, 1992

reference:

subject: Wetland Determinations for Beckemeyer, Depue, and Sauget

I have finished the reports for these sites and have enclosed them for your review. If you have any comments or any suggested revisions that would better suit your purposes, let me know so I can make these modifications.

I do hope these will be adequate for your needs. There is no question that these areas qualify as wetlands using the current rationale.

cc: Don McFall Carl Becker Jim Garner

RECEIVED

JUL 27 1992

**IEPA/DLPC** 

### WETLAND DETERMINATIONS FOR DEAD CREEK NEAR SAUGET ST. CLAIR COUNTY, ILLINOIS

BY

#### W. E. MCCLAIN

DIVISION OF NATURAL HERITAGE
ILLINOIS DEPARTMENT OF CONSERVATION

#### SAUGET

The village of Sauget lies in western St. Clair County southwest of East St. Louis on the Mississippi River in that part of Illinois known as the Lower Mississippi River Bottomlands Division, Northern Section (Schwegman 1973). This area , prior to the arrival of the Europeans, was characterized by extensive marshes, wet prairies, oxbow lakes, and bottomland forest. The bottomlands in the vicinity of Cahokia are known as the American Bottoms due to the settlement of the area by American soldiers following the end of the Revolutionary War.

The soils of this section have developed from alluvium. Areas of both sandy, well drained soils and clay soils with poor internal drainage are present in this region. The marshes present in this area were characterized by the presence of river bulrush, cattails, American lotus, and pickerelweed. Most of these have been destroyed by drainage or filling.

The entire section is characterized by little variation in topography. A local relief of less than 10 feet often characterizes areas where no earthmoving or filling activities have taken place. The entire division is characterized by oxbow lakes and meander scars of the river.

#### WETLAND DETERMINATION METHODS

In many situations, wetland determinations can be made in the field without the need for extensive vegetation and soil sampling. One approach involves the hydric soil assessment procedure, and the other involves a visual assessment of the plant community to determine if hydrophytic vegetation is present. Both of these procedures were used in the assessment of the Sauget site.

County soil data, available from the Soil Conservation Service, was used in the hydric soil assessment procedure. The site of concern was located on the soils map to determine the presence or absence of hydric soils. This information was then recorded on the "Routine Onsite Wetland Determination form".

In the assessment of the plant community, the project area was walked and each plant community and its components were identified. The dominant plant species in each community were determined and their wetland indicator status was identified. Their wetland indicator status was obtained from an interagency Federal list of plants occurring in wetlands.

In order for an area to qualify as a wetland, more than 50 % of the dominant species in each community must have an indicator status of OBL (growing exclusively in wetlands), FACW (growing mostly in wetlands), or FAC (growing in wetland or upland sites). If the site does not meet this test, they are usually not considered to be wetlands. However, sites not meeting the vegetation criteria may

qualify as a wetland if the hydric soils are present.

Comparisons were also made with wetlands identified by the National Wetlands Inventory for the Sauget area. This should provide additional confirmation on the existence of wetlands at this site.

#### FIELD INVESTIGATIONS

Wetland determinations were conducted on Dead Creek in Sauget in July, 1992. The stream bed at this location appears to have been channelized, creating a wider and deeper stream.

The field studies began in Segment B of Dead Creek, an area where very little plant growth was present in the stream bed. The dominant woody plants along the stream bed are black willow (Salix nigra), eastern cottonwood (Populus deltoides), hackberry (Celtis occidentalis), and elderberry (Sambucus canadensis). The herbaceous vegetation was sparse, and consisted of a few scattered plants of water plantain (Alisma subcordatum), and duckweed (Lemna minor). The soils within the stream were saturated, and evidence of flooding (driftwood and debris) were present along the banks of the stream.

Segment C of Dead Creek has a greater diversity of herbaceous plant species in the stream bed than Segment B. Red elm (<u>Ulmus rubra</u>), and eastern cottonwood are the dominant woody species, and frog fruit (<u>Phyla lanceolata</u>), water plantain, rice cut grass (<u>Leersia oryzoides</u>), and spike rush (<u>Eleocharis obtusa</u>) are the dominant herbaceous plants. These herbaceous plants all require a wetland environment, and are regarded as wetland obligate plants.

Segment D of Dead Creek was also characterized by wetland obligate plants, including frog fruit, water plantain, rice cut grass, arrowhead (Sagittaria latifolia), and buttonbush (Cephalanthus occidentalis). Eastern cottonwood was the most abundant tree species. Water was present in the stream at this location, and crayfish burrows were present throughout the area.

Segment E of Dead Creek is characterized by a greater diversity of woody plants, including boxelder (<u>Acer negundo</u>), sycamore (<u>Platanus occidentalis</u>), silver maple (<u>Acer saccharinum</u>), and eastern cottonwood. Rice cut grass, giant ragweed (<u>Ambrosia trifida</u>), and duckweed. The soil surface in this section was inundated, and evidence of flooding (driftwood and debris) was present in the area.

Segment F of Dead Creek is characterized by the presence of eastern cottonwood, silver maple, boxelder, black willow, and buttonbush. The herbaceous plants included cattails (<u>Typha angustifolia</u>), water plantain, arrowhead, frog fruit, and swamp milkweed (<u>Asclepias incarnata</u>). All of these herbaceous plants require a wetland type of environment.

The Southern End Of Section Q is a depression that does support some wetland plants, including eastern cottonwood, black willow, frog fruit, cattails, water plantain and a pondweed (<u>Potamogeton nodosus</u>). The presence of the pondweed, water plantain, frog fruit, and the cattails indicates that this area is wet during much of the year. Crayfish burrows are also present throughout the area.

Lot G is a forested area adjacent to the Mississippi River. Unlike other parts of the project area, this area appears to relatively undisturbed. The dominant trees in the area are silver maple, black willow, eastern cottonwood, and boxelder. The herbaceous understory consists of jewelweed (<u>Impatiens biflora</u>), Canada nettle (<u>Laportea canadensis</u>), Virginia wild rye (<u>Elymus virginicus</u>), and giant ragweed.

#### CONCLUSIONS

The single feature that all wetlands have in common is soil or substrate that is periodically saturated or covered with water. During the field investigations of this site, evidence of flooding (driftwood and debris, water marks on trees, and dried up pools) were present in the area. This is evidence that this area does experience periodic inundation, resulting in the subsequent saturation of the soils of the site.

Using the system of Cowardin et al (1979), the site that were investigated at Sauget would be classified as either a palustrine forested wetland or as an emergent wetland. Palustrine forested wetlands are characterized by woody vegetation that is at least six meters (20 feet) tall. Palustrine emergent wetlands are characterized by vegetation that is herbaceous and persistent (remains standing) throughout the winter months until the next growing season.

The results of the wetland field investigations at Sauget are similar to the results of the National Wetlands Inventory for this site (Figure 1). These wetland maps show the presence of wetlands along Dead Creek and along the Mississippi River.

The soils of the project area are Landes fine sandy loam, Riley silty clay loam, and Parkville silty clay loam. Landes fine sandy loam is located on bottomlands of the Mississippi River. Parkville silty clay is present in the American Bottoms, and is known to have a seasonal high water table in addition to periodic flooding. Riley silty clay loam is also a soil of the Mississippi River Floodplain that is known to have a seasonal high water table plus periodic flooding. Of these three soil types, Parkville silty clay and Riley silty loam are on the hydric soils list for St. Clair County.

Based upon the field investigations, and the National Wetlands Inventory, the sites along Dead Creek in Sauget in St. Clair County

are wetlands as defined in the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands", an interagency document published in January of 1989 for use in wetland determinations.

Dead Creck DATA FORM ROUTINE ONSITE DETERMINATION METHOD <sup>1</sup>
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<sup>&</sup>lt;sup>1</sup> This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.

<sup>&</sup>lt;sup>2</sup> Classification according to "Soil Taxonomy."

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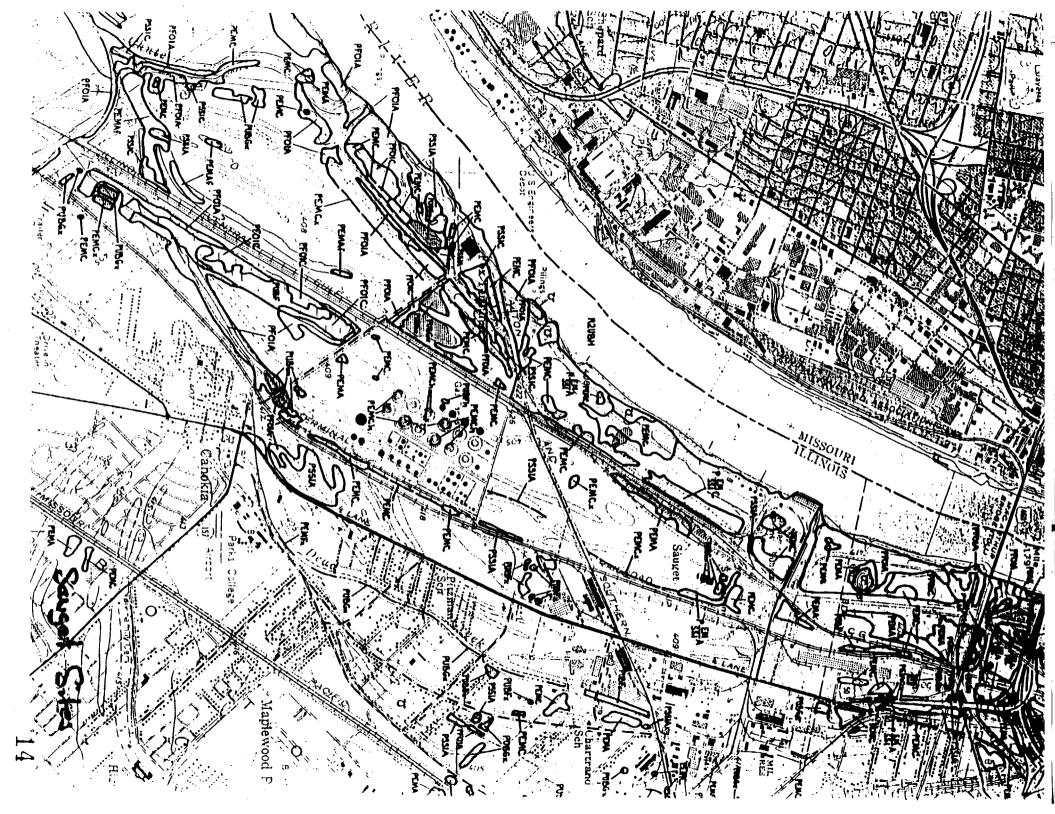
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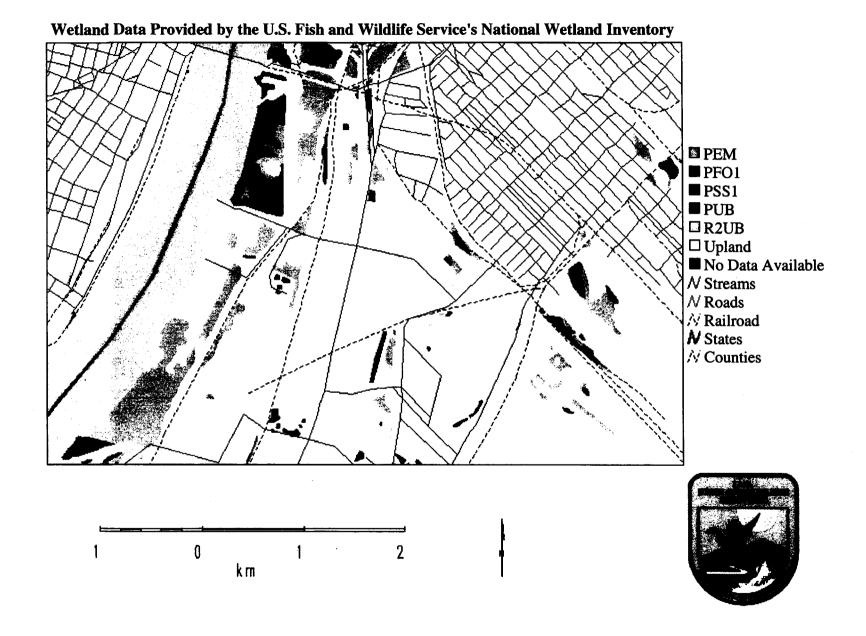
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the soil on the hydric soils list? the soil a Histosol? Yes the soil: Mottled? Yes atrix Color: ther hydric soil indicators: the hydric soil criterion met? Attionale:	No Gleyed?  Mottle des No  HYDRO	Yes No	•		
the soil on the hydric soils list? the soil a Histosol? Yes the soil: Mottled? Yes latrix Color: ther hydric soil indicators: the hydric soil criterion met? Attionale:	No Gleyed?  Mottle of the series of the	PLOGY Surface water depth  T at Surfa	•		
the soil on the hydric soils list? the soil a Histosol? Yes the soil: Mottled? Yes atrix Color: ther hydric soil indicators: the hydric soil criterion met? Yeationale:  the ground surface inundated? the soil saturated? Yes pth to free-standing water in pit/se	No Gleyed?  Mottle of Mottle of Mottle of No MyDRO  Yes No	Yes No Colors:  DLOGY  Surface water depth  T at Surface ation.	•		
the soil on the hydric soils list? the soil a Histosol? Yes the soil: Mottled? Yes atrix Color: ther hydric soil indicators: the hydric soil criterion met? the ground surface inundated? the soil saturated? Yes pth to free-standing water in pit/set t other field evidence of surface in the wetland hydrology criterion met tionale:	No Gleyed?  Mottle of Mottle of Mottle of Mo MyDRO  Yes No No No Mottle of MyDRO  No No No MyDRO  poil probe hole: No MyDRO  pundation or soil saturate. Yes No No MyDRO  part? Yes No No MyDRO  The probability of No MyDRO  The	Yes No Colors:  DLOGY  Surface water depth  T at Surface ation.	: &		

B-2





#### WETLANDS AND DEEPWATER HABITATS CLASSIFICATION

SYSTEM	SUBSYSTEM		CLASS	SUBCLASS
		<b>-</b>	RB=Rock Bottom	1=Bedrock 2=Rubble
		  -   	UB=Unconsolidated Bottom	1=Cobble-Gravel 2=Sand 3=Mud 4=Organic
 	1=SUBTIDAL	]  -   	AB=Aquatic Bed	1=Algal 3=Rooted Vascular 5=Unknown Submergent
 		  - 	RF=Reef	1=Coral 3=Worm
 		} —	OW=Open Water/Unknown Bot	tom (used on older maps)
       		<b>-</b>     	AB=Aquatic Bed	1=Algal 3=Rooted Vascular 5=Unknown Submergent
	2=INTERTIDAL	   <b>-</b> 	RF=Reef	1=Coral 3=Worm
		   -   .	RS=Rocky Shore	1=Bedrock 2=Rubble
		  -	US=Unconsolidated Shore	1=Cobble-Gravel 2=Sand 3=Mud 4=Organic
SYSTEM	SUBSYSTEM		CLASS	SUBCLASS
	!	<b>-</b>	RB=Rock Bottom	1=Bedrock 2=Rubble
		   <b>-</b> 	UB=Unconsolidated Bottom	1=Cobble-Gravel 2=Sand 3=Mud 4=Organic
	1=SUBTIDAL    	   <b>-</b>     	AB=Aquatic Bed	1=Algal 3=Rooted Vascular 4=Floating Vascular 5=Unknown Submergent

	1	 		6=Unknov	n Surface
	,   	-  -	RF=Reef	2=Mollus 3=Worm	sc
E=ESTUARINE	! 	 	OW=Open Water/Unknown Bo	tom (usec maps	
	           	-       	AB=Aquatic Bed	4=Floati Vascul 5=Unknow Submer	ar n
	 	-	RF=Reef	2=Mollus 3=Worm	c
	   	-       	SB=Streambed	3=Cobble 4=Sand 5=Mud 6=Organi	
	 	i – I	RS=Rocky Shore	1=Bedroo 2=Rubble	
	2=INTERTIDAL	-       	US=Unconsolidated Shore	1=Cobble 2=Sand 3=Mud 4=Organi	
		  - 	EM=Emergent	1=Persis 2=Nonper	
			SS=Scrub-Shrub	1=Broad- Decidu 2=Needle Decidu 3=Broad- Evergr 4=Needle Evergr 5=Dead 6=Indete Decidu 7=Indete Evergr	ous -Leaved een -Leaved een rminate ous rminate
		i   -	FO=Forested	1=Broad- Decidu 2=Needle Decidu 3=Broad- Evergr 4=Needle Evergr 5=Dead	ous -Leaved ous Leaved een -Leaved

6=Indeterminate
Deciduous
7=Indeterminate
Evergreen

SYSTEM	SUBSYSTEM	CLASS	SUBCLASS
		- RB=Rock Bottom	1=Bedrock 2=Rubble
	1=TIDAL	- UB=Unconsolidated Bottom	1=Cobble-Gravel 2=Sand 3=Mud 4=Organic
	    2=LOWER   PERENNIAL   	-*SB=Streambed    -*SB=Streambed 	1=Bedrock 2=Rubble 3=Cobble-Gravel 4=Sand 5=Mud 6=Organic 7=Vegetated
R=RIVERINE	  3=UPPER   PERENNIAL            4=INTERMITTENT-	 	1=Algal 2=Aquatic Moss 3=Rooted Vascular 4=Floating Vascular 5=Unknown Submergent 6=Unknown Surface
	 	  - RS=Rocky Shore 	1=Bedrock 2=Rubble
	  5=UNKNOWN   PERENNIAL (used on older maps)	  - US=Unconsolidated Shore       	1=Cobble-Gravel 2=Sand 3=Mud 4=Organic 5=Vegetated
		-**EM=Emergent	2=Nonpersistent
		- OW=Open Water/Unknown Bot  -*STREAMBED is limited to T   INTERMITTENT SUBSYSTEMS, a:   the only CLASS in the INTE:  -**EMERGENT is limited to T   PERENNIAL SUBSYSTEMS.	maps) IDAL and nd comprises RMITTENT SUBSYSTEM.

SYSTEM

SUBSYSTEM

CLASS

SUBCLASS

		- RB=Rock Bottom	1=Bedrock 2=Rubble
		- UB=Unconsolidated Botto	om 1=Cobble-Gravel 2=Sand 3=Mud 4=Organic
             	1=LIMNETIC	- AB=Aquatic Bed	1=Algal 2=Aquatic Moss 3=Rooted Vascular 4=Floating Vascular 5=Unknown Submergent 6=Unknown Surface
L=LACUSTRINE		- OW=Open Water/Unknown H	ottom (used on older maps)
 		- RB=Rock Bottom	1=Bedrock 2=Rubble
		- UB=Unconsolidated Botto	nm 1=Cobble-Gravel 2=Sand 3=Mud 4=Organic
        -	2=LITTORAL	- AB=Aquatic Bed	1=Algal 2=Aquatic Moss 3=Rooted Vascular 4=Floating Vascular 5=Unknown Submergent 6=Unknown Surface
		- RS=Rocky Shore	1=Bedrock 2=Rubble
		- US=Unconsolidated Shore	1=Cobble-Gravel 2=Sand 3=Mud 4=Organic 5=Vegetated
		- EM=Emergent	2=Nonpersistent
		- OW=Open Water/Unknown E	ottom (used on older maps)
SYSTEM	SUBSYSTEM	CLASS	SUBCLASS
		- RB=Rock Bottom	1=Bedrock 2=Rubble

	-	UB=Unco	nsolidated	Botto	2=: 3=!	Cobble-Gravel Sand Mud Organic
		AB=Aqua	tic Bed		2=2 3=1 4=1 5=1	Algal Aquatic Moss Rooted Vascular Floating Vascular Unknown Submergent Unknown Surface
	-	US=Unco	nsolidated	Shore	2=9 3=1 4=0	Cobble-Gravel Sand Mud Organic Jegetated
	-   	ML=Moss	-Lichen			Moss Lichen
P=PALUSTRINE	-  - 	EM=Emer	gent			Persistent Nonpersistent
	·	SS=Scru			2=N 2=N 3=E 4=N F 5=E 6=I 7=I	Broad-Leaved Deciduous Needle-Leaved Deciduous Broad-Leaved Evergreen Deedle-Leaved Evergreen Dead Endeterminate Deciduous Endeterminate Evergreen
		FO=Fore			2=N 2=N 3=E 4=N E 5=C 6=I 7=I	Broad-Leaved Deciduous Deciduous Broad-Leaved Deciduous Broad-Leaved Deciduous
	-	OW=Open	Water/Unkn	own Bo	ottom	(used on older maps)

MODIFIERS

```
|- A=Temporarily Flooded
                                 |- B=Saturated
                                 |- C=Seasonally Flooded
                                 |- D=Seasonally Flooded/Well Drained
                                 |- E=Seasonally Flooded/Saturated
                                 |- F=Semipermanently Flooded
               |--Non-Tidal-----|- G=Intermittently Exposed
                                |- H=Permanently Flooded
                                 |- J=Intermittently Flooded
                                 |- K=Artificially Flooded
                                 |- W=Intermittently Flooded/Temporary (used on
                                                                    older maps)
                                 |- Y=Saturated/Semipermanent/Seasonal (used on
                                                                    older maps)
                                 |- Z=Intermittently Exposed/Permanent (used on
                                                                    older maps)
                                |- U=Unknown
WATER REGIME----|
                                |- K=Artificially Flooded
                                |- L=Subtidal
                                |- M=Irregularly Exposed
                                |- N=Regularly Flooded
                |-*S=Temporary-Tidal
                                |-*R=Seasonal-Tidal
                                 |-*T=Semipermanent-Tidal
                                 |-*V=Permanent-Tidal
                                 |- U=Unknown
                                |-*These water regimes are only used in
                                | tidally influenced, freshwater systems.
                                |- 1=Hyperhaline
                                |- 2=Euhaline
               |--Coastal
                               |- 3=Mixohaline (Brackish)
                  Halinity------ |- 4-Polyhaline
                               |- 5=Mesohaline
                                |- 6=Oligohaline
                                |- 0=Fresh
WATER CHEMISTRY-I
                               |- 7=Hypersaline
               |--Inland |- 8=Eusaline
                  Salinity------ 9=Mixosaline
                               |- 0=Fresh
               |--pH Modifiers |- a=Acid
                  for all
                              |- t=Circumneutral
                  Fresh Water---- |- i=Alkaline
```